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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,318	10/12/2000	Sadeg M. Faris	105-096USA000	8360

23370 7590 04/15/2002

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EXAMINER

YUAN, DAH WEI D

ART UNIT	PAPER NUMBER
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1745

9

DATE MAILED: 04/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-9

Office Action Summary

Application No.

09/689,318

Applicant(s)

FARIS ET AL.

Examiner

Dah-Wei D. Yuan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 22, 23, 30, 31, 38, 43-46, 52, 53, 60, 62 and 64 is/are rejected.
- 7) ☒ Claim(s) 20, 21, 24-29, 32-37, 39-42, 47-51, 54-59, 61, 63 and 65 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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FUEL CELL SUPPORT AND ELECTRICAL INTERCONNECTOR

Examiner: Yuan S.N. 09/689,318 Art Unit: 1745 March 29, 2002

Detailed Action

1. The Applicant's amendment filed on March 11, 2002 was received. Claims 1,7,13,18,23,43,45 were amended. The second claim 21 has been renumbered as claim 22.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action (Paper No. 7).

Claim Objection

3. The claim objections on claim 7 are withdrawn, because the claim has been amended.

Claim Rejections - 35 USC § 112

4. The claim rejections under 35 U.S.C. 112, second paragraph, on claims 1,13,18,23,43,45 are withdrawn, because the claims have been amended.

Claim Rejections - 35 USC § 102

5. The claim rejections under 35 U.S.C.102(b) on claims 1,15,17,19,22,23,30,31,38,43,46,52,53, 60,62,64 are maintained. The rejection is repeated below for convenience.

Stone et al. teach a metal air cell comprising a flexible, recloseable pouch, which is made of a gas-permeable and electrolyte-impermeable material, forming the cathode of the cell, a

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metal plate anode, and spacers physically isolating the anode from the cathode. A plurality of such cells are preferably stacked into a multi-cell battery, and compressed in a harness to maintain proper anode-cathode spacing as the anode is consumed. As shown in Figure 5, anode (44) preferably comprises a flat metal plate with a highly conductive terminal (50) extending from the cell. A conductor extends from terminal (80) of the current collector to a cathode terminal (84) on the exterior of pouch cathode (42). The cells in the stack are electrically connected in series with a plurality of bus straps (101), extending between the cathode terminal of one cell, and the anode terminal of the next adjacent cell. The structure of bus straps and housing (406) are considered to be equivalent to a connector block, which independently and releasably engage the cathode and anode terminal elements. Spacing (104) for air movement is provided between adjacent metal air cells. See Abstract, Column 6, Lines 17-19, Column 7, Lines 26-28, 45-60, Figures 4 and 10.

Allowable Subject Matter

6. Claims 2-14,16,20,21,24-29,32-37,39-42,44,45,47-51,54-59,61,63,65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 2-14,16,49-51 would be allowable because the closest prior art of record, Stone et al., does not disclose or suggest the conductor block is elongated along a longitudinal axis and comprises at least two rows of apertures extending along the axis. Claims 20,21,24-29,39,40,41,42,44,45, 47,48 would be allowable because the closest prior art of record, Stone et al., does not disclose or

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suggest both the anode and cathode support structures having a post that is slidably inserted into an aperture in the connector block, respectively. Claims 32-34,36,54-56 would be allowable because the closest prior art of record, Stone et al., does not disclose or suggest the use of a support tray to define an air duct. Claims 35,57 would be allowable because the closest prior art of record, Stone et al., does not disclose or suggest the connector having two lateral stepped ledges. Claims 37,59 would be allowable because the closest prior art of record, Stone et al., does not disclose or suggest the connector block is electrically insulating. Claim 58 would be allowable because the closest prior art of record, Stone et al., does not disclose or suggest the use of a co-fitting key element in the support tray. Claims 61,63,65 would be allowable because the closest prior art of record, Stone et al., does not disclose or suggest the use of hydrogen as fuel for the battery.

Response to Arguments

7. Applicant's arguments filed on June 14, 2001 have been fully considered but they are not persuasive.

Applicant's principle arguments are

(a) Stone et al. requires both bus bar straps and a separate housing. The bus bar straps and the housing are in no way integrated;

(b) The housing in Stone reference does not provide for independent and releasable mechanical engagement of the individual fuel cells.

In response to Applicant's arguments, please consider the following comments.

(a) The bus bar straps (101) are considered to be part of the housing structure (406) as shown in Figure 19. As a result, the Stone reference reads on the limitation of the independent claim 1 which recites "...a connector block....comprising means (i.e., bus bar straps) for electrically connecting the anodes and cathodes of the stacked cells....";

(b) Stone teaches the bus straps can be separate parts in the connecting of a plurality of cells. See Column 7, Lines 46-52. Thus, individual fuel cell can be independently and releasably disconnected from the housing structure by disengaging from the individual bus straps.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (703) 308-0766. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2340.

Dah-Wei D. Yuan
March 29, 2002


CAROL CHANEY
PRIMARY EXAMINER